

APRIL/MAY 2025

**FEMB64A/CEMB64A — BIOINOCULANTS
TECHNOLOGY**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.



1. What is pellicle?
2. What are carrier materials?
3. What are the characteristic features of Rhizobia?
4. What are nod factors?
5. What is heterocyst?
6. What are the characteristic features of *Anabaena azollae*?
7. What is seed treatment?
8. Give any four examples of phosphate solubilizers.
9. Define VAM.
10. What is pseudoparenchymatous sheath?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Compare and comment on symbiotic and non-symbiotic nitrogen fixation.

Or

- (b) Explain how will you isolate *Azotobacter* and *Azospirillum*.

12. (a) Explain nodulation.

Or

- (b) Write note on non-legume symbiosis.

13. (a) How will you mass multiply BGA?

Or

- (b) Comment on methods of application of *Azolla* and *Cyanobacteria*.

14. (a) Explain how you will apply PSM.

Or

- (b) What are the mechanisms of phosphate solubilization?

15. (a) List out the roles of mycorrhizae.

Or

- (b) Comment on types of mycorrhizae.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions:

16. Recall the mechanisms of plant growth promotion by PGPR.
17. Discuss about symbiotic nitrogen fixation.
18. Illustrate the mass multiplication of *Azolla*.
19. Describe isolation and mass multiplication of phosphate solubilizing bacteria.
20. Describe about VAM mass cultivation and methods of applications.

